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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,802	09/19/2005	Yoshihiro Koizumi	Q90260	7950
23373	7590	04/23/2007		
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER BAER, JENNIFER M	
			ART UNIT	PAPER NUMBER
			2809	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/549,802

Applicant(s)

KOIZUMI, YOSHIHIRO

Examiner

Jennifer M. Baer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 13-16, 20 and 21 is/are rejected.
- 7) ☐ Claim(s) 6-12, 17-19 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 9/19/2005, 12/16/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claims 6-12 and 17-19 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim shall not serve as a basis for any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims 6-12 and 17-19 have not been further treated on the merits.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 13-16, and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oda et al. (US 6,991,325 B2) in view of Kuribayashi et al. (US 6,536,885 B2).

In regards to claim 1, Oda et al. teaches a liquid ejecting apparatus (12) comprising: a carriage (14) that reciprocates in a main scanning direction (M) (Fig. 1), a liquid ejecting head (28) mounted on the carriage (2), having a plurality of head-liquid-supplying ports (Fig.2, col. 5, line 67) and a plurality of nozzles (28), and a sub-tank member (32) mounted on the carriage (14), having a plurality of liquid-storing-room openings (30) that are respectively communicated with the plurality of head-liquid-supplying ports (Fig. 2) of the liquid ejecting head (28), wherein the sub-tank member

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(32) is formed as a single integral member (Fig.2, col. 6, lines 15-17), the plurality of liquid-storing-room openings (30) are respectively communicated with a plurality of liquid-communication ways (42) provided in the sub-tank member (32), and the plurality of liquid-communication ways (42) are respectively communicated with a plurality of sub-tank-liquid-supplying ports (74, 76) provided at an outside of the sub-tank member (32)(Fig. 3).

Oda et al. fails to teach each of the plurality of liquid-storing-room openings is closed by an elastic partition having a predetermined area in order to form a liquid storing room.

Kuribayashi et al. teaches each of the plurality of liquid-storing-room openings (218a) is closed by an elastic partition (218d) having a predetermined area in order to form a liquid storing room (Fig. 7, col. 16, lines 1-3).

Oda et al. discloses that the type of material constituting the liquid-storing-room openings is not limited as long as the material has ink resistance to ink and satisfies predetermined conditions of moisture permeability and gas permeability (col. 7, lines 53-56). Since both Oda et al. and Kuribayashi et al. teach ink jetting devices, it would have been obvious to one skilled in the art at the time of invention to use an elastic partition having a predetermined area to form the liquid storing room as taught by Kuribayashi et al., since Oda et al. states at col. 7, lines 53-56 that such material as elastic, which would satisfy the conditions stated, would be a permissible substitution because it is ink resistant and can satisfy predetermined conditions of moisture permeability and gas permeability.

In regards to claim 2, Oda et al. teaches wherein the plurality of liquid-storing-room openings (30) have bottoms (Fig. 2).

In regards to claim 3, Oda et al. fails to teach wherein all the plurality of liquid-storing-room openings are provided on one side of the sub-tank member.

Kuribayashi et al. teaches wherein all the plurality of liquid-storing-room openings (218a) are provided on one side of the sub-tank member (520) (Fig. 7 and Fig. 14). Since both Oda et al. and Kuribayashi et al. teach ink-jetting devices, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the structure of Kuribayashi et al. to the structure of Oda et al. because it would provide for a more reliable ink storage system.

In regards to claim 4, Oda et al. fails to teach wherein opening surfaces of the plurality of liquid-storing-room openings are located in a common flat plane.

Kuribayashi et al. teaches wherein opening surfaces (H) of the plurality of liquid-storing-room openings (508a) are located in a common flat plane (col. 24, lines 1-4).

Since both Oda et al. and Kuribayashi et al. teach ink jetting devices, it would have been obvious to one skilled in the art at the time the invention was made to combine their structures because it would provide for a more accurate printing device.

In regards to claim 5, Oda et al. fails to teach wherein all the plurality of liquid-storing-room openings are closed by a common elastic partition.

Kuribayashi et al. teaches wherein all the plurality of liquid-storing-room openings (218a) are closed by a common elastic partition (222).

Since both Oda et al. and Kuribayashi et al. disclose ink jetting devices, it would have been obvious to one of ordinary skill in the art at the time of invention to combine the elastic partition of Kuribayashi et al. to the structure of Oda et al. because it would prevent the ink from leaking in a more reliable manner as taught by Kuribayashi col. 16, lines 26-28.

In regards to claim 13, Oda et al. teaches wherein the plurality of liquid-storing-room openings (30) are through openings (Fig. 4).

In regards to claim 14, Oda et al. fails to teach wherein opening surfaces on one side of the plurality of liquid-storing-room openings are located in a common first flat plane, opening surfaces on the other side of the plurality of liquid-storing-room openings are located in a common second fat plane, and the first flat plane and the second flat plane are parallel with each other.

Kuribayashi et al. teaches wherein opening surfaces (H) on one side of the plurality of liquid-storing-room openings (508a) are located in a common first flat plane (Fig. 20), opening surfaces (H) on the other side of the plurality of liquid-storing-room

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openings (508a) are located in a common second flat plane (Fig. 20), and the first flat plane and the second flat plane are parallel with each other (Fig. 20) (col. 24, lines 1-4).

Since both Oda et al. and Kuribayashi et al. teach ink jetting devices, it would have been obvious to one skilled in the art at the time of invention to combine their structures because it would provide for a more accurate printing device.

In regards to claim 15, Oda et al. fails to teach wherein opening surfaces on one side of the plurality of liquid-storing-room openings are closed by a common first elastic partition, and opening surfaces on the other side of the plurality of liquid-storing-room openings are closed by a common second elastic partition.

Kuribayashi et al teaches wherein opening surfaces (H) on one side of the plurality of liquid-storing-room openings (508a) are closed by a common first elastic partition (510), and opening surfaces (H) on the other side of the plurality of liquid-storing-room openings (508a) are closed by a common second elastic partition (510).

Since both Oda et al. and Kuribayashi et al. teach ink jetting devices, it would have been obvious to one skilled in that art at the time the invention was made to cover the opening surfaces by two elastic partitions because it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art (see *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8).

In regard to claim 16, Oda et al. teaches a liquid ejecting apparatus (12) comprising a carriage (14) that reciprocates in a main scanning direction (M)(Fig. 1), a

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liquid ejecting head (28) mounted on the carriage (2), having a plurality of head-liquid-supplying ports (Fig. 2, col. 5, line 67) and a plurality of nozzles (28), and a sub-tank member (32) mounted on the carriage (14), having a plurality of liquid-storing-room openings (30) that are respectively communicated with the plurality of head-liquid-supplying ports (Fig. 2) of the liquid ejecting head (28), the plurality of liquid-storing-room openings (30) are respectively communicated with a plurality of liquid-communication ways (42) provided in the sub-tank member (32), the plurality of liquid-communication ways (42) are respectively communicated with a plurality of sub-tank-liquid-supplying ports (74, 76) provided at an outside of the sub-tank member (32) (Fig. 3), and the plurality of sub-tank-liquid-supplying ports (74, 76) are gathered (Figs. 3 and 5).

Oda et al. fails to teach wherein each of the plurality of liquid-storing-room openings is closed by an elastic partition having a predetermined area in order to form a liquid storing room.

Kuribayashi et al. teaches each of the plurality of liquid-storing-room openings (218a) is closed by an elastic partition (218d) having a predetermined area in order to form a liquid storing room (Fig. 7, col. 16, lines 1-3).

Oda et al. discloses that the type of material constituting the liquid-storing-room openings is not limited as long as the material has ink resistance to ink and satisfies predetermined conditions of moisture permeability and gas permeability (col. 7, lines 53-56). Since both Oda et al. and Kuribayashi et al. teach ink jetting devices, it would have been obvious to one skilled in the art at the time of invention was made to use an elastic partition having a predetermined area to form the liquid storing room as taught by

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Kuribayashi et al., since Oda et al. states at col. 7, lines 53-56 that such material as elastic, which would satisfy the conditions stated, would be a permissible substitution because it is ink resistant and can satisfy predetermined conditions of moisture permeability and gas permeability.

In regards to claim 20, Oda et al. teaches a sub-tank member comprising (32) a plurality of liquid-storing-room openings (30) that are respectively communicated with a plurality of head-liquid-supplying ports (74, 76) of a liquid ejecting head (28), a plurality of liquid-communication ways (42, 44) that are respectively communicated with the plurality of liquid-storing-room opening (30)(Fig. 3), and a plurality of sub-tank-liquid-supplying ports (74, 76) that are respectively communicated with the plurality of liquid-communication ways (42, 44) (Fig. 4), wherein each of the plurality of liquid-storing-room openings is closed by an elastic partition having a predetermined area in order to form a liquid storing room, the sub-tank member (32) is mounted on a carriage (14) that reciprocates in a main scanning direction (M)(Fig. 1), and the sub-tank member (32) is formed as a single integral member (Fig. 2, col.6, lines 15-17).

In regards to claim 21, Oda et al. teaches a sub-tank member (32) comprising a plurality of liquid-storing-room openings (30) that are respectively communicated with a plurality of head-liquid-supplying ports (Fig. 2) of a liquid ejecting head (28), a plurality of liquid-communication ways (42, 44) that are respectively communicated with the plurality of liquid-storing-room openings (30)(Fig. 4), and a plurality of sub-tank-liquid-

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supplying ports (74, 76) that are respectively communicated with the plurality of liquid-communication ways (42, 44), the sub-tank member (32) is mounted on a carriage (14) that reciprocated in a main scanning direction (M)(Fig.1), and the plurality of sub-tank-liquid-supplying ports (74, 76) are gathered (Figs. 3 and 5).

Oda et al. fails to teach wherein each of the plurality of liquid-storing-room openings is closed by an elastic partition having a predetermined area in order to form a liquid storing room.

Kuribayashi et al. teaches each of the plurality of liquid-storing-room openings (218a) is closed by an elastic partition (218d) having a predetermined area in order to form a liquid storing room (Fig. 7, col. 16, lines 1-3).

Oda et al. discloses that the type of material constituting the liquid-storing-room openings is not limited as long as the material has ink resistance to ink and satisfies predetermined conditions of moisture permeability and gas permeability (col. 7, lines 53-56). Since both Oda et al. and Kuribayashi et al. teach ink jetting devices, it would have been obvious to one skilled in the art at the time of invention to use an elastic partition having a predetermined area to form the liquid storing room as taught by Kuribayashi et al., since Oda et al. states at col. 7, lines 53-56 that such material as elastic, which would satisfy the conditions stated, would be a permissible substitution because it is ink resistant and can satisfy predetermined conditions of moisture permeability and gas permeability.

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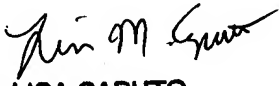
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer M. Baer whose telephone number is 571-270-1621. The examiner can normally be reached on mon-fri, 7:30-5:00, Alt Fri est. time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Loke can be reached on 571-270-1809. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JB 4/12/2007


LISA CAPUTO
PRIMARY PATENT EXAMINER